

JPO Translation of JP10-033655

Disclaimer:

This English translation is produced by machine translation and may contain errors. The JPO, the INPIT, and those who drafted this document in the original language are not responsible for the result of the translation.

Notes:

1. Untranslatable words are replaced with asterisks (***)
2. Texts in the figures are not translated and shown as it is.

Translated: 23:50:36 JST 07/29/2010

Dictionary: Last updated 07/09/2010 / Priority: 1. Medical/Pharmaceutical sciences / 2. Chemistry / 3. Biotechnology

CLAIM + DETAILED DESCRIPTION

[Claim(s)]

[Claim 1] A pasting material for dermatitis treatment which is a pasting material which forms an adhesive layer for skin attachment in one side of a base film which has moisture permeability at 10-80 micrometers in thickness directly or indirectly, and is characterized by coming to adjust moisture vapor transmission as a pasting material to the range of 300 - 1500 g/m².

[Claim 2] The pasting material for dermatitis treatment according to claim 1 which is a kind as which a base film is chosen from polyether polyurethane, polyester polyurethane, and polyether polyamide block polymer.

[Claim 3] The pasting material for dermatitis treatment according to claim 1 whose adhesive power of an adhesive layer for skin attachment is 30-180g/25 mm.

[Claim 4] The pasting material for dermatitis treatment according to claim 3 which is the acrylic pressure sensitive adhesive in which an adhesive layer for skin attachment copolymerizes considering acrylic acid alkyl ester (meta) as the main ingredients.

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the pasting material for dermatitis treatment.

[0002]

[Description of the Prior Art] In recent years, atopic dermatitis is occurring frequently with change of eating habits, Construction Division, and a mental health side among skin disease. Although atopic dermatitis oozes at an infancy, and starts with the strong scarlet colored spot of a trend and it expands from the head, a face, a head, etc. to the member, such symptoms usually show the trend which disappears gradually as it becomes the upper classes of an elementary school through infancy. However, although the scarlet hue of the skin fades, chronic is become, and follicular keratinization is carried out desiccation of the skin, and often.

[0003] Although 50 percent or more of an infant is occasionally suffered from atopic dermatitis and the many change to a turn for the better 3 to 40 percent in infancy as mentioned above, on the other hand, it is also a fact that a child's rate which atopic dermatitis does not cancel is increasing. These days, not only a child but the number of the adults who become chronic and are troubled by atopic dermatitis is increasing, and it does not stop at only Japan being alike, but is in the situation same also in advanced nations.

[0004] For the patient of such atopic dermatitis, the most painful symptoms are itching.

Compared with a pain, it is hard to bear, and an itch may reveal an itch spasmodically. As dermatitis accompanied by itching, there is Pruritus Cutaneus represented by the senile itch other than atopic dermatitis.

[0005]As a cause of the onset of atopic dermatitis, although a food allergy, house dust (house dust), mite, etc. can be considered, after causing inflammation on the skin, a skin side will be in the dry state of an umbrella except a food allergy. As a result, a certain antigen invades in the skin from the exterior, and an allergic reaction is induced. This connection and causative agent twine individually and intricately, suit in many cases, and cannot be explained briefly. Since the itching paraesthesia of an inflammation part is intolerable, it is the actual condition which an adult also scratches as well as an infant or an infant. However, by scratching, blood vessel permeability will increase because damage a skin side and an antigen scratches further in an invasion provoking, the substance cell for immunity will sink in, and inflammation will be worsened.

[0006]As a therapeutic method of such atopic dermatitis, spreading of the adrenal corticosteroid (steroid) for generally controlling the inflammation of an inflammation part, oral administration of the antihistamine, etc. are performed. However, although the effect of a steroid is powerful, its side effects are also powerful, and when inflammation has happened still more broadly, it has the difficulty of being hard to apply. If medication is stopped when transient remission is observed using a steroid, symptoms will re-develop. It is what is called a rebound phenomenon.

[0007]Although how to sweep away the cadaver of mite or mite and domestic garbage (house dust, such as cotton waste etc.) from the inside of a home, the method of sweeping away the skin normal bacterial floras (for example, Staphylococcus aureus etc.) which exist anywhere, etc. can be considered, on the other hand, in order to improve domestic environment, Such environment cannot be made perfectly, but even if it can do, a very great investment will be needed.

[0008]As mentioned above, the actual condition is that there is no procedure which deals with atopic dermatitis completely now and is made to recover completely.

[0009]

[Problem to be solved by the invention][then by using the external use pasting material for skin pasting which has specific moisture vapor transmission, as a result of repeating examination wholeheartedly that this invention persons should deal with atopic dermatitis in view of the above-mentioned actual condition] It finds out demonstrating the healing effect which was extremely excellent to atopic dermatitis or Pruritus Cutaneus, and came to complete this invention.

[0010]

[Means for solving problem][namely one side of a base film as for which this invention has moisture permeability at 10-80 micrometers in thickness] It is a pasting material which forms the adhesive layer for skin attachment directly or indirectly, and the pasting material for dermatitis treatment characterized by coming to adjust the moisture vapor transmission as a pasting material to the range of 300 - 1500 g/m² is provided.

[0011]It is effective in it being a kind as which a base film is especially chosen from polyether polyurethane, polyester polyurethane, and polyether polyamide block polymer, and it is effective that the adhesive power of the adhesive layer for skin attachment is 30-180g/25 mm. In order to adjust to such adhesive power, it is preferred to use the acrylic pressure sensitive adhesive which copolymerizes considering acrylic acid alkyl ester as the main ingredients as an adhesive layer for skin attachment (meta).

[0012]

[Mode for carrying out the invention]10-80 micrometers of base films used for the pasting material for dermatitis treatment of this invention are preferably made into a thickness of 20-50 micrometers from a point of plasticity or skin flattery nature, and when it sticks on a skin side,

the plastic film which has moderate moisture permeability is used. As the quality of the material of such a film, urethane system polymer, such as polyether polyurethane and polyester polyurethane, polyether polyamide block polymer, etc. can specifically be used. In order to give free-standing [moderate] to a pasting material on the occasion of pasting to a skin side, textiles, such as a nonwoven fabric and textile fabrics, may be laminated to one side or both sides of a base material to such an extent that moisture permeability is not spoiled.

[0013]As for the above-mentioned base film, it is desirable to follow a motion of the skin and for a modulus to adjust to the range of 5 - 20 kg/cm² preferably 25% from the point carried out that it is hard to generate skin irritation below in 30kg/cm².

[0014]On the other hand, the adhesive layer for skin attachment is directly formed in one side of the above-mentioned base film indirectly via the undercoat agent layer for raising anchoring nature. It is important that moisture vapor transmission is adjusted to the range of 300 - 1500 g/m² where the adhesive layer for skin attachment is formed in this invention. Therefore, it is necessary to adjust the moisture vapor transmission of an adhesive layer to the range of 800 - 3000 g/m² (at the time of 30-micrometer thickness) preferably.

[0015]As for an adhesive layer, it is preferred to make it for moderate ***** to be required and give neither a pain nor skin irritation, when exfoliating from a skin side, and it is desirable 30-180g/to adjust adhesive power to the range of 50-150g/25 mm preferably 25 mm. After sticking the adhesive power as used in the field of this invention on the human skin, it is the value which did the peeling examination 180 degrees and was calculated using the autograph (made by Shimadzu) by 300-mm the speed of testing for /.

[0016]The acrylic pressure sensitive adhesive used from the former which does not produce a rash etc. when the above-mentioned adhesive layer for skin attachment touches a skin side, It is preferred to constitute from medical use adhesives, such as crude rubber system adhesives, synthetic rubber system adhesives, silicone pressure sensitive adhesive, vinyl ester system adhesives, and vinyl ether system adhesives. The acrylic pressure sensitive adhesive which copolymerizes considering acrylic acid alkyl ester as the main ingredients among these especially (meta) from a point of the ease of carrying out of adjustment of the stability of the quality of adhesives, adhesion characteristics, and moisture vapor transmission is preferred. Specifically, the carbon number of an alkyl group can use 2-18, and the ester preferably obtained from the 1st class - the 3rd class alcohol, and the acrylic acids or the methacrylic acid of 4-12 as acrylic acid alkyl ester (meta).

[0017]As a monomer which copolymerizes in the above-mentioned (meta) acrylic acid alkyl ester, [an end] Have in intramolecular at least one unsaturated double bond which specifically participates in a copolymerization reaction, and, a carboxyl group (for example (meta-), acrylic acids, itaconic acid, and maleic acid.) a maleic anhydride etc. and a hydroxyl group (for example (meta-), acrylic-acids hydroxy ethyl ester.) (meta-) sulfo KISHIRU groups (for example, styrene sulfonic acid.), such as acrylic-acids hydroxy propyl ester Allyl sulfonic acid, acrylic-acids (meta) sulfopropyl ester, (meth)acryloyloxy naphthalene sulfonic acid, amino groups (for example (meta-), acrylic-acids aminoethyl ester.), such as acrylamide methylpropanesulfonic acid (Meta) N,N-dimethylaminoethyl acrylate, acrylic-acids (meta) tert-butylamino ethyl ester, etc., an amide group (for example (meta-), acrylamide and dimethyl(meta-) acrylamide.) alkoxy groups (for example (meta-), acrylic-acids methoxy ethyl ester.), such as N-butyl acrylamide, N-methylol(metha)acrylamide, and N-methylol propane (meta-) acrylamide (Meta) Acrylic-acids ethoxyethyl ester, acrylic-acids (meta) methoxy ethylene glycol ester, (Meta) Acrylic-acids methoxy diethylene glycol ester, acrylic-acids (meta) methoxy polyethylene-glycols ester, (meta-) acrylic-acids ethoxy polyethylene-glycols ester, acrylic-acids (meta-) tetrahydrofurfuryl ester, etc. -- etc. -- a monomer which has a functional group in a side chain can be used. As a monomer which can copolymerize in addition to these, for example (meta) Acrylonitrile, Vinyl acetate,

vinyl propionate, N-vinyl-2-pyrrolidone, methylvinyl pyrrolidone, Vinylpyridine, vinyl piperidone, vinyl pyrimidine, vinyl piperazine, vinyl pyrazine, vinyl pyrrole, vinyl imidazole, vinyl caprolactam, vinyl oxazole, vinyl morpholine, etc. can be used.

[0018]Although these copolymeric monomers can copolymerize a kind or two sorts or more, The thing of the carboxyl group containing monomer from points, such as adjustment of the adhesiveness as adhesion characteristics, cohesiveness, and moisture vapor transmission, an alkoxyl group content monomer, and a hydroxyl group content monomer which a kind is used as an essential ingredient at least, and is copolymerized in other monomers of illustration in the above if needed is preferred.

[0019]As the above-mentioned acrylic pressure sensitive adhesive, preferably acrylic acid alkyl ester (meta) 40weight % or more A kind or two sorts or more of acrylic acid alkyl ester [50 to 98 weight % of] (meta), The copolymer produced by copolymerizing a kind or two sorts or more of copolymeric monomers [2 to 50 weight % of] is used.

[0020]Form the adhesive layer for skin attachment in one side of a base film, and the pasting material for dermatitis treatment of this invention becomes it, as described above, and if needed, [on the surface of an adhesive layer] It is preferred to cover with the separator (releasing paper) which applies a publicly known remover to one side or both sides of a plastic film or a paper base.

[0021]When using the pasting material of this invention, what is necessary is just to carry out ablation elimination of the separator, to expose an adhesive layer side, and to stick on the affected part (skin side) of the patient who has caused atopic dermatitis and Pruritus Cutaneous, and it is not necessary to apply a steroid etc. Thus, although the Reason atopic dermatitis and Pruritus Cutaneous recover only by sticking is not clear, what is depended on the Reason for the following is presumed.

[0022]That is, comparatively, the skin side from which atopic dermatitis etc. are started was compared with the normal skin, it has shrunk [the horny layer of a skin surface is dry, and], and barrier performances are falling. then -- invade in the skin from the part to which the barrier performances of the skin are falling, inflammation happens in the inside of the skin, or a skin surface, and an itch produces an antigen as the result -- further -- scratching -- inflammation is amplified. Since it is for the pasting material of this invention cutting off such a vicious circle and has moisture permeability comparable as the normal skin, Even if it sticks on a skin side, a skin surface does not dry, the moistness of the horny cell of the affected part atrophied according to the still more moderate covering effect increases, it swells and barrier performances are recovered.

[0023]Since the invasion of the antigen substance from the outside can be prevented by covering the affected part and the crack and contamination which are depended for the affected part to scratch can be prevented, amplification of inflammation can be controlled.

[0024]Although it is not necessary to make the adhesive layer in the pasting material of this invention contain the steroid which has a powerful effect, making medicines, such as an anti-inflammatory agent, antibacteria medicine, bactericides, and cytokine, contain by 0.01 to 10weight % of within the limits in order to soften the inflammation of the affected part does not interfere.

[0025]Since the pasting material of this invention is stuck on the skin affected part which has caused inflammation comparatively broadly, it is [more than 5 cm²] preferred to make it preferably the thing of the size about 15-600 cm².

[0026]

[Effect of the Invention]The pasting material for dermatitis treatment of this invention is only stuck on the affected part which has caused atopic dermatitis and Pruritus Cutaneous as mentioned above several weeks, and demonstrates the effect that dermatitis is improved. Since it

is adjusting to moderate moisture vapor transmission and adhesive power, its skin of the affected part is not hurt and healing efficiency is raised.

[0027]

[Working example] Although the embodiment of this invention is shown below and explained to it still more concretely, various application is possible for this invention within limits which are not limited to these and do not deviate from the technical idea of this invention. It means a weight section that all it is with a part in the following sentences.

[0028] Acrylic pressure sensitive adhesive (copolymer of 35 copies of 65 copies of octyl acrylate / vinyl acetate) was used for one side of embodiment 1 polyether polyurethane (30-micrometer thickness), and it laminated so that it might become an adhesive layer of 40-micrometer thickness. Subsequently, covering lamination of the separator was carried out on the surface of the adhesive layer, it judged in size of 5 cm x 6 cm, and the pasting material of this invention was produced.

[0029] The pasting material of this invention was produced like Embodiment 1 except having used embodiment 2 adhesives as the acrylic pressure sensitive adhesive which consists of copolymer of five copies of 25 copies of 70 copies of octyl acrylate / ethoxyethyl acrylate / acrylic acids.

[0030] Embodiment 3 polyether polyamide block polymer (30-micrometer thickness) was used as the base material film, and the pasting material of this invention was produced like operation of Embodiment 1 except having considered it as the acrylic pressure sensitive adhesive which used adhesives in Embodiment 2.

[0031] What laminated the ethyl carbamate nonwoven fabric (amount of tsubos 30g/m^2) on one side of embodiment 4 polyether polyamide block polymer (10-micrometer thickness) is used as a base material film, On this one side, [in 45 copies of 8/2 mixtures of the 1st polyisobutylene (weight-average molecular weight 50,000) / the 2nd polyisobutylene (weight-average molecular weight 1,200,000)] Using the hydrocolloid adhesives which distributed uniformly 55 copies of 2/1 mixtures of carboxymethyl cellulose/pectin, it laminated so that it might become an adhesive layer of 40-micrometer thickness. Subsequently, covering lamination of the separator was carried out on the surface of the adhesive layer, it judged in size of 5 cm x 6 cm, and the pasting material of this invention was produced.

[0032] The pasting material was produced like Embodiment 2 except having used the comparative example 1 base film as polyethylene (30-micrometer thickness).

[0033] The pasting material was produced like Embodiment 4 except having used the hydrocolloid adhesives in comparative example 2 Embodiment 4 as 8/2 mixture of the 1st polyisobutylene (weight-average molecular weight 50,000) / the 2nd polyisobutylene (weight-average molecular weight 1,200,000).

[0034] Except that the pattern coating of the adhesive layer in comparative example 3 Embodiment 2 is carried out to the shape of a lattice at one side of a base film and 50% of film planes were covered by the adhesive layer, the pasting material was produced like Embodiment 2.

[0035] The following examinations were done about the pasting material produced in each above-mentioned embodiment and a comparative example. A result is indicated to Table 1.

[0036] <Moisture vapor transmission> 10 ml of distilled water was put into glass containers 8 mm in inside diameter, and 40 mm in height, the adhesive layer of each pasting material cut out in a size 50 mm in diameter was used as the inferior surface of tongue, and the upper opening of glass containers was covered. Subsequently, this was put in in the thermo-hygrostat of 40 ** and 30%R.H. After neglecting it for 24 hours, the amount of water vapor permeation (g/m^2 and day) was computed by having measured the amount of reduction of moisture from a container, and it was considered as moisture vapor transmission.

[0037]After cutting out <adhesive power> each pasting material to the specimen of 100-mm length and 25-mm width and sticking it back [Homo sapiens] in a lengthwise direction, the peeling examination was done 180 degrees using the Shimadzu autograph, and adhesive power was measured. It tore off, speed was considered as a part for 300-mm/, and it asked as average value of n= 3.

[0038]<Allergic> (skin sensitization test)

It examined by the Adjuvant and Patch Test method. 20 guinea pigs per one pasting material (ten sensitization groups, ten non-sensitization groups) were prepared, and 20 more animals (ten sensitization groups, ten non-sensitization groups) were prepared as an object for positive control substances.

[0039]Following ** - ** are prepared as a reagent.

** Emulsion of adjuvant of Freund.

** A pasting material.

** A positive substance : DNCB (2,4-dinitro chlorobenzene).

[0040]As test operation, first, a scapula top of ten guinea pigs of a sensitization group was shaved, and intracutaneous administration of the emulsion of ** was carried out. Moreover #-like crack was given, obstruction pasting of the pasting material of ** was carried out for 24 hours, and this operation was repeated 3 times continuously. Subsequently, one week afterward, a medication part was processed with sodium lauryl sulfate (spreading), and a pasting material of ** was stuck for 48 hours. ** It impregnated with a filter paper, and this was replaced with a pasting material, and was used, and a positive substance was operated like the above.

[0041]Next, two weeks after the above-mentioned operation, regio lateralis of a guinea pig of ten sensitization groups and ten non-sensitization groups was shaved, and a pasting material of ** or a positive substance of ** was applied.

[0042]A pasting material or a positive substance was removed after application of 24 hours, and skin reaction of a pasting part was observed after pasting for 72 hours for 48 hours for 24 hours.

[0043]A judgment made a case where skin reaction in the direction of allergic nothing ones and a sensitization group was stronger than a non-sensitization group those with allergic for a case where there is no difference in skin reaction between ten sensitization groups and ten non-sensitization groups.

[0044]<Atopic dermatitis improvement factor> each pasting material was stuck on a skin side of a patient who has caused symptoms of allergic dermatitis, and an improvement degree was investigated in symptoms after one week of pasting, and three weeks of pasting. Pasting was continuously performed during the above-mentioned period as 24 hours/day.

[0045]

[Table 1]

		透湿度 (g/m ² ・日)	粘着力 (g/25mm幅)	7日間経過後の 剥離性	改善度	
					1週間後	3週間後
実 施 例	1	950	100	なし	改善	顕著改善
	2	1100	95	なし	改善	顕著改善
	3	1200	95	なし	改善	顕著改善
	4	500	110	なし	やや改善	改善
比 較 例	1	100	100	なし	悪化	悪化
	2	30	120	なし	不変	やや悪化
	3	2500	70	なし	不変	やや改善

[Translation done.]